Hazardous Materials Removal Workers

(0*NET 47-4041.00)

Significant Points

- Working conditions can be hazardous, and the use of protective clothing often is required.
- Formal education beyond high school is not required, but a training program leading to a Federal license is mandatory.
- Good job opportunities are expected.

Nature of the Work

Increased public awareness and Federal and State regulations are resulting in the removal of hazardous materials from buildings, facilities, and the environment to prevent further contamination of natural resources and to promote public health and safety. Hazardous materials removal workers identify, remove, package, transport, and dispose of various hazardous materials, including asbestos, lead, and radioactive and nuclear materials. The removal of hazardous materials, or "hazmats," from public places and the environment also is called abatement, remediation, and decontamination.

Hazardous materials removal workers use a variety of tools and equipment, depending on the work at hand. Equipment ranges from brooms to personal protective suits that completely isolate workers from the hazardous material. The equipment required varies with the threat of contamination and can include disposable or reusable coveralls, gloves, hardhats, shoe covers, safety glasses or goggles, chemical-resistant clothing, face shields, and devices to protect one's hearing. Most workers also are required to wear respirators while working, to protect them from airborne particles. The respirators range from simple versions that cover only the mouth and nose to self-contained suits with their own air supply.

In the past, asbestos was used to fireproof roofing and flooring, for heat insulation, and for a variety of other purposes. Today, asbestos is rarely used in buildings, but there still are structures that contain the material. Embedded in materials, asbestos is fairly harmless; airborne, however, it can cause several lung diseases, including lung cancer and asbestosis. Similarly, lead was a common building component found in paint and plumbing fixtures and pipes until the late 1970s. Because lead is easily absorbed into the bloodstream, often from breathing lead dust or from eating chips of paint containing lead, it can cause serious health risks, especially in children. Due to these risks, it has become necessary to remove lead-based products and asbestos from buildings and structures.

Asbestos abatement workers and *lead abatement workers* remove asbestos, lead, and other materials from buildings scheduled to be renovated or demolished. Using a variety of hand and power tools, such as vacuums and scrapers, these workers remove the asbestos and lead from surfaces. A typical residential lead abatement project involves the use of a chemical to strip the lead-based paint from the walls of the home. Lead abatement workers apply the compound with a putty knife and allow it to dry. Then they scrape the hazardous material into an impregnable container for transport and storage. They also use sandblasters and high-pressure water sprayers to remove lead from large structures. The vacuums utilized by asbestos abatement workers have special, highly efficient filters designed to trap the asbestos, which later is disposed of or stored. During the abatement, special monitors measure the amount of asbestos and lead in the air, to protect the workers; in addition, lead abatement workers wear a personal air monitor that indicates the amount of lead to which a worker has been exposed. Workers also use monitoring devices to identify the asbestos, lead, and other materials that need to be removed from the surfaces of walls and structures.

Transportation of hazardous materials is safer today than it was in the past, but accidents still occur. *Emergency and disaster response workers* clean up hazardous materials after train derailments and trucking accidents. These workers also are needed when an immediate cleanup is required, as would be the case after an attack by biological or chemical weapons.

Radioactive materials are classified as either high- or low-level wastes. High-level wastes are primarily nuclear-reactor fuels used to produce electricity. Low-level wastes include any radioactively contaminated protective clothing, tools, filters, medical equipment, and other items. *Decontamination technicians* perform duties similar to those of janitors and cleaners. They use brooms, mops, and other tools to clean exposed areas and remove exposed items for decontamination or disposal. With experience, these workers can advance to *radiation-protection technician* jobs and use radiation survey meters to locate and evaluate materials, operate high-pressure cleaning equipment for decontamination, and package radioactive materials for transportation or disposal.

Decommissioning and decontamination workers remove and treat radioactive materials generated by nuclear facilities and power plants. With a variety of handtools, they break down contaminated items such as "gloveboxes," which are used to process radioactive materials. At decommissioning sites, the workers clean and decontaminate the facility, as well as remove any radioactive or contaminated materials.

Treatment, storage, and disposal workers transport and prepare materials for treatment or disposal. To ensure proper treatment of the materials, laws require these workers to be able to verify shipping manifests. At incinerator facilities, treatment, storage, and disposal workers transport materials from the customer or service center to the incinerator. At landfills, they follow a strict procedure for the processing and storage of hazardous materials. They organize and track the location of items in the landfill and may help change the state of a material from liquid to solid in preparation for its storage. These workers typically operate heavy machinery, such as forklifts, earthmoving machinery, and large trucks and rigs.

Mold remediation is a new and growing part of the work of some hazardous materials removal workers. Some types of mold can cause allergic reactions, especially in people who are susceptible to them.

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Although mold is present in almost all structures, some mold—especially the types that cause allergic reactions—can infest a building to such a degree that extensive efforts must be taken to remove it safely. Mold typically grows in damp areas, in heating and air-conditioning ducts, within walls, and in attics and basements. Although some mold remediation work is undertaken by other construction workers, mold often must be removed by hazardous materials removal workers, who take special precautions to protect themselves and surrounding areas from being contaminated.

Hazardous materials removal workers also may be required to construct scaffolding or erect containment areas prior to abatement or decontamination. In most cases, government regulation dictates that hazardous materials removal workers be closely supervised on the worksite. The standard usually is 1 supervisor to every 10 workers. The work is highly structured, sometimes planned years in advance, and team oriented. There is a great deal of cooperation among supervisors and workers. Because of the hazard presented by the materials being removed, work areas are restricted to licensed hazardous materials removal workers, thus minimizing exposure to the public.

Working Conditions

Hazardous materials removal workers function in a highly structured environment, to minimize the danger they face. Each phase of an operation is planned in advance, and workers are trained to deal with safety breaches and hazardous situations. Crews and supervisors take every precaution to ensure that the worksite is safe. Whether they work in asbestos, mold, or lead abatement or in radioactive decontamination, hazardous materials removal workers must stand, stoop, and kneel for long periods. Some must wear fully enclosed personal protective suits for several hours at a time; these suits may be hot and uncomfortable and may cause some individuals to experience claustrophobia.

Hazardous materials removal workers face different working conditions, depending on their area of expertise. Although many work a standard 40-hour week, overtime and shift work are common, especially in asbestos and lead abatement. Asbestos abatement and lead abatement workers are found primarily in structures such as office buildings and schools. Because they are under pressure to complete their work within certain deadlines, workers may experience fatigue. Completing projects frequently requires night and weekend work, because hazardous materials removal workers often work around the schedules of others. Treatment, storage, and disposal workers are employed primarily at facilities such as landfills, incinerators, boilers, and industrial furnaces. These facilities often are located in remote areas, due to the kinds of work being done. As a result, workers employed by treatment, storage, or disposal facilities may commute long distances to their jobs.

Decommissioning and decontamination workers, decontamination technicians, and radiation protection technicians work at nuclear facilities and electric power plants. Like treatment, storage, and disposal facilities, these sites often are far from urban areas. Workers, who often perform jobs in cramped conditions, may need to use sharp tools to dismantle contaminated objects. A hazardous materials removal worker must have great self-control and a level head to cope with the daily stress associated with handling hazardous materials.

Hazardous materials removal workers may be required to travel outside their normal working areas in order to respond to emergencies, the cleanup of which sometimes take several days or weeks to complete. During the cleanup, workers may be away from home for the entire time.

Employment

Hazardous materials removal workers held about 38,000 jobs in 2002. About 7 in 10 were employed in waste management and remediation services. About 6 percent were employed by specialty trade contractors, primarily in asbestos abatement and lead abatement. A small number worked at nuclear and electric plants as decommissioning and decontamination workers and radiation safety and decontamination technicians.

Training, Other Qualifications, and Advancement

No formal education beyond a high school diploma is required for a person to become a hazardous materials removal worker. Federal regulations require an individual to have a license to work in the occupation, although, at present, there are few laws regulating mold removal. Most employers provide technical training on the job, but a formal 32- to 40-hour training program must be completed if one is to be licensed to as an asbestos abatement and lead abatement worker or a treatment, storage, and disposal worker. The program covers health hazards, personal protective equipment and clothing, site safety, recognition and identification of hazards, and decontamination. In some cases, workers discover one hazardous material while abating another. If they are not licensed to work with the newly discovered material, they cannot continue to work with it. Many experienced workers opt to take courses in additional disciplines to avoid this situation. Some employers prefer to hire workers licensed in multiple disciplines.

For decommissioning and decontamination workers employed at nuclear facilities, training is more extensive. In addition to the standard 40-hour training course in asbestos, lead, and hazardous waste, workers must take courses dealing with regulations governing nuclear materials and radiation safety. These courses add up to approximately 3 months of training, although most are not taken consecutively. Many agencies, organizations, and companies throughout the country provide training programs that are approved by the U.S. Environmental Protection Agency, the U.S. Department of Energy, and other regulatory bodies. Workers in all fields are required to take refresher courses every year in order to maintain their license.

Workers must be able to perform basic mathematical conversions and calculations, and should have good physical strength and manual dexterity. Because of the nature of the work and the time constraints sometimes involved, employers prefer people who are dependable, prompt, and detail-oriented. Because much of the work is done in buildings, a background in construction is helpful.

Job Outlook

Job opportunities are expected to be good for hazardous materials removal workers. The occupation is characterized by a relatively high rate of turnover, resulting in a number of job openings each year stemming from experienced workers leaving the occupation. In addition, many potential workers are not attracted to this occupation, because they may prefer work that is less strenuous and has safer working conditions. Experienced workers will have especially favorable opportunities, particularly in the private sector, as more State and local governments contract out hazardous materials removal work to private companies.

Employment of hazardous materials removal workers is expected to grow much faster than the average for all occupations through the year 2012, reflecting increasing concern for a safe and clean environment. Special-trade contractors will have strong demand for the largest segment of these workers, namely, asbestos abatement and lead abatement workers; lead abatement should offer par-

ticularly good opportunities. Mold remediation is an especially rapidly growing part of the occupation at the present time, but it is unclear whether its rapid growth will continue: until a few years ago, mold remediation was not considered a significant problem, and perhaps a few years from now, less attention will be paid to it again.

Employment of decontamination technicians, radiation safety technicians, and decommissioning and decontamination workers is expected to grow in response to increased pressure for safer and cleaner nuclear and electric generator facilities. In addition, the number of closed facilities that need decommissioning may continue to grow, due to Federal legislation. These workers also are less affected by economic fluctuations, because the facilities in which they work must operate, regardless of the state of the economy.

Earnings

Median hourly earnings of hazardous materials removal workers were $15.61 in 2002. The middle 50 percent earned between $12.37 and $22.18 per hour. The lowest 10 percent earned less than $10.29 per hour, and the highest 10 percent earned more than $26.60 per hour. The median hourly earnings in remediation and other waste management services, the largest industry employing hazardous materials removal workers in 2002, were $14.92 in 2002.

According to the limited data available, treatment, storage, and disposal workers usually earn slightly more than asbestos abatement and lead abatement workers. Decontamination and decommissioning workers and radiation protection technicians, though constituting the smallest group, tend to earn the highest wages.

Related Occupations

Asbestos abatement workers and lead abatement workers share skills with other construction trades workers, including painters and paperhangers; insulation workers; and sheet metal workers. Treatment, storage, and disposal workers, decommissioning and decontamination workers, and decontamination and radiation safety technicians work closely with plant and system operators, such as power-plant operators, distributors, and dispatchers and water and wastewater treatment plant operators.

Sources of Additional Information

For more information on hazardous materials removal workers, including information on training, contact

➤ Laborers-AGC Education and Training Fund, 37 Deerfield Rd., P.O. Box 37, Pomfret, CT 06259. Internet: **http://www.laborerslearn.org**

There are more than 500 occupations registered by the U.S. Department of Labor's National Apprenticeship system. For more information on the Labor Department's registered apprenticeship system, and links to State apprenticeship programs, check their website: **http:// www.doleta.gov**.